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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,815	10/11/2005	Declan Patrick Kelly	NL 030420	5564
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EXAMINER				
DUDEK JR, EDWARD J				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/552,815

Applicant(s)

KELLY ET AL.

Examiner

Edward J. Dudek

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-14 and 16-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 11-13 and 16-23 is/are rejected.
- 7) ☒ Claim(s) 5, 9, 10 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is responsive to the amendment filed on 18 March 2008 in application #10/552,815.

Claims 1-7, 9-14, and 16-23 are pending and have been presented for examination.

Claims 8 and 15 have been cancelled.

Drawings

The drawings were received on 18 March 2008. These drawings are acceptable.

Specification

The new abstract submitted on 18 March 2008 is acceptable and has been entered.

Response to Arguments

Applicant's arguments, see page 12, filed 18 March 2008, with respect to the drawings have been fully considered and are persuasive. The objection to the drawings has been withdrawn.

Applicant's arguments, see page 12, filed 18 March 2008, with respect to claim 14 have been fully considered and are persuasive. The rejection of claim 14 under 35 U.S.C. § 112, second paragraph, has been withdrawn.

Applicant's arguments filed 18 March 2008 with respect to claims 1-23 have been fully considered but they are not persuasive.

Applicant argues the following:

In rejecting claim 15 on page 6 of the Office Action, paragraph [0034] of Bradley is cited to allegedly show splitting "an image of said first file system into different categories based on properties of data structures, and to store said split file components in different files of said second file system," as recited in amended independent claim 1 and similarly recited in amended independent claim 23. It is respectfully submitted that Bradley is not concerned with any record carrier, and is rather concerned with computer systems. Further, paragraph [0034] of Bradley does not disclose or suggest the present invention as recited in independent claim 1, and similarly recited in independent claim 23 which, amongst other patentable elements recites (illustrative emphasis provided):

wherein said mapping means is adapted to reserve space on the record carrier for an image of said first file system in a logical specification of said second format, and wherein said mapping means is further adapted to split said image of said first file system into different categories based on properties of data structures, and to store said different categories in different files of said second file system.

These features are nowhere disclosed or suggested in Bradley. Rather, paragraph [0034] of Bradley merely discloses enabling communication between a requester and a device of an I/O node by transparently translating between the requester file system type and the dynamic flat file system of the I/O node, where metadata-superblock of the dynamic flat file system is reformatted so as to substantially match the metadata format of the requester. Ando, Bradley, Official Notice and MRAM are cited to allegedly show other features and do not remedy the deficiencies in Bradley.

The Examiner respectfully disagrees. Bradley is concerned with a record carrier since that is where the data of the file system is ultimately stored (see figure 6, element 612). The system of Bradley also discloses reserving logical cylinders for the storage of

the metadata of the file system. The metadata contains the pointers to all the objects and the data that make up the file system (see [0097]-[0100]). Therefore the storage area that is being used by the file system is inherently reserved on the storage media by way of the metadata. Finally, the data that is being stored on the dynamic flat file system is split into different categories based on properties of data structures. There are volume, directory, and file classes that the data is stored in (see [0034] and [0044]-[0045]). The rejections are maintained as repeated below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 6, 11-13, 16-17, and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Bradley (U.S. Patent Application Publication #2002/0065810).

As per claim 1: Bradley discloses a drive device for a record carrier, said drive device comprising: interface means for providing a first format for inputting or outputting data according to a first file system (**see figure 6, element 604 and [0130]**); and mapping means for mapping said first format to a second format according to a second file system used on said record carrier (**see [0132]**); wherein said mapping means is adapted to reserve space on the record carrier for an image of said first file system in

the logical specification of said second format (**see [0096]-[0100]**), wherein said mapping means is further adapted to split said image of said first file system into different categories based on properties of data structures, and to store said split file components in different files of said second file system (**see [0034] and [0044]-[0045]**).

As per claim 4: wherein said first file system is a FAT file system (**see [0041]**).

As per claim 6: wherein said record carrier is an optical disk (**see [0114], an optical disk is capable of storing data**).

As per claim 11: wherein said image of said first file system corresponds to a single file of said second file system (**see [0034] and [0044]-[0045], if there was only one category of data stored in the file system, then there would be only one class of data created and therefore only one file**).

As per claim 12: wherein said device provides access to files of said second file system via said interface means by hosts which do not know said second file system (**see [0110]**).

As per claim 13: wherein said second file system is interpreted by said mapping means which is arranged to write equivalent structures of said first file system to said record carrier (**see [0108]**).

As per claim 16: wherein said different categories comprise at least one of a robust allocation class and a volatile allocation class for file structures (**see [0034]**).

As per claim 17: wherein said mapping means is arranged to mount said second file system on said record carrier and to translate said second file system in a memory means into equivalent structures of said first file system (**see [0133]**).

As per claim 22: wherein said mapping means is arranged to provide a dynamic mapping between data structures of said first file system and data structures of said second file system **(see [0132])**.

As per claim 23: Bradley discloses a method of reading from or writing to a record carrier, said method comprising the steps of: outputting or inputting data using a first format according to a first file system **(see figure 6, element 604 and [0130])**; and mapping said first format to a second format according to a second file system used on said record carrier **(see [0132])**; reserving space on the record carrier for an image of said first file system in the logical specification of said second format **(see [0096]-[0100])**; splitting said image of said first file system into different categories based on properties of data structures **(see [0034] and [0044]-[0045])**; storing said split file components in different files of said second file system **(see [0034] and [0044]-[0045])**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-3, 7, 18-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley (U.S. Patent Application Publication #2002/0065810) in view of well known practices in the art.

As per claim 2: Bradley discloses all the limitations of claim 1 as discussed above. Bradley does not explicitly teach that said interface means is a standard interface for storage devices. Standard interfaces for storage devices were well known in the art at the time the invention was made. Providing a device to access the rotating media with a standard interface would provide the greatest compatibility for using the device in a computer system, and Official Notice is hereby taken. It would have been obvious to a person having ordinary skill in the art to which said subject matter pertains to have modified the system disclosed by Bradley to use a standard interface for the rotating media device to provide the greatest compatibility among computer systems.

As per claims 3 and 7: Ando discloses all the limitations of claim 1 as discussed above. Bradley fails to disclose said standard interface is a PCMCIA, Compact Flash, or MMCA interface. PCMCIA interfaces were well known in the art at the time the invention was made. Providing the storage device with a PCMCIA interface would allow the device to also be portable and useable with laptop computers, since the PCMCIA port was common on laptops and was the main port where expansion devices were connected, and Official Notice is hereby taken. It would have been obvious to a person having ordinary skill in the art to which said subject matter pertains to have modified the system disclosed by Bradley to provide the storage device with a PCMCIA port to allow the device to be portable and useable with laptop computers.

As per claim 18: Bradley discloses all the limitations of claims 1 and 17 as discussed above. Bradley fails to disclose that the memory means is a non-volatile memory. Bradley discloses loading the super-block into memory, see [0133], which will change as the consumer system updates the data. If the system were to lose power, then all the data that was updated is also lost. It was well known in the art at the time the invention was made to utilize non-volatile memory in instances where data is to be protected during loss of power, and Official Notice is hereby taken. It would have been obvious to a person having ordinary skill in the art to which said subject matter pertains to have modified the system disclosed by Bradley, to load the super-block into non-volatile memory so that any updates that are made to the data are not lost in the event that the host system loses power before the data can be transferred back to disk storage.

As per claim 19: wherein said second file system is updated by said device when said record carrier is ejected (**see [0135], since the file system is mounted when the requester has a Unix based file system, before the device can be removed from the system, e.g. ejected, the device must first be un-mounted. During this un-mount process any data structures that are in memory that have been updated are written back to the storage media. Therefore it is inherent that the file system would be updated when said record carrier is ejected).**

As per claim 21: Bradley discloses all the limitations of claims 1 and 17 as discussed above. Bradley fails to disclose wherein said mapping means is arranged to

store static data structures of said first file system in a file on said record carrier and volatile data structures of said first file system in said memory means. Storing volatile data structures in said memory allows the system to make changes to the file system much more efficiently, as there is less latency involved when writing to local memory as opposed to secondary storage, and Official Notice is hereby taken. It would have been obvious to a person having ordinary skill in the art to which said subject matter pertains to have modified the system disclosed by Bradley, to store the volatile data structures in memory, to allow the system to make changes more efficiently, rather than waiting for the changes to be written to the secondary storage.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley (U.S. Patent Application Publication #2002/0065810) in view of well known practices in the art as applied to claims 18-19 and 21 above, and further in view of MRAM (<http://en.wikipedia.org/wiki/MRAM>).

As per claim 20: the combination of Bradley and well known practices in the art disclose all the limitations of claims 1 and 17-19 as discussed above. The combination fails to disclose that said non-volatile memory is an MRAM. MRAM is another type of non-volatile memory and provides the advantages of speeds similar to SRAM, density similar to DRAM, and no degradation over time as in flash memories (**see MRAM, "Overall"**). It would have been obvious to a person having ordinary skill in the art to which said subject matter pertains to have modified the combination of Bradley and well known practices in the art to use MRAM, to gain the advantages of speeds similar to

SRAM, density similar to DRAM, and no degradation over time as in flash memories, as disclosed by MRAM.

Allowable Subject Matter

Claims 5, 9-10, and 14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward J. Dudek whose telephone number is 571-270-1030. The examiner can normally be reached on Mon thru Thur 7:30-5:00pm Sec. Fri 7:30-4 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matt Kim/
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Examiner, Art Unit 2186
June 4, 2008